

NOV 15 2007

AMENDMENTS TO THE CLAIMS

1. (Original) A method for analyzing an organelle-localized protein, which enables one to determine whether or not a test protein localizes to an organelle, ~~and said method comprises the following steps:~~

(a) ~~a step of~~ introducing a fusion peptide (a), which comprises one half-peptide of an intein, one half-peptide of a fluorescent protein and an organelle-targeting signal peptide, into a eukaryotic cell;

(b) ~~a step of~~ introducing a test protein bound to a fusion peptide (b), which comprises the other half-peptide of the fluorescent protein ~~and~~, the other half-peptide of the intein, and a test protein, into the eukaryotic cell; and

(c) ~~a step of~~ detecting a fluorescence signal emitted by the fluorescent protein.

2. (Currently amended) The method of Claim 1, wherein;

in step (a), two or more types of fusion peptide (a) are introduced into the eukaryotic cell, each comprising, wherein each fusion peptide (a) comprises one half-peptide of different the fluorescent proteins protein and the organelle targeting signal peptide, wherein the fluorescent protein has a different signal characteristic from other fluorescent proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides and different organelle-targeting signal peptides, are introduced into a eukaryotic cell;

in step (b), two or more types of fusion peptides (b) are introduced into the eukaryotic cell, wherein each fusion peptide (b) comprises, each comprising the other half-peptide of the different fluorescent proteins protein and a test protein different from each other, and each bound to a test protein, is introduced into the eukaryotic cell; and

in step (c), the fluorescent signal is detected.

3. (Currently amended) The method of Claim 1, wherein, in step (a), the fusion peptide (a) is introduced into ~~a~~the eukaryotic cell by transfecting a recombinant vector (A), which expresses the fusion peptide (a), into the eukaryotic cell.

4. (Currently amended) ~~The analysis~~ method of Claim 1, wherein, in step (b), ~~the test protein and the fusion peptide (b) are~~is introduced into ~~a~~the eukaryotic cell by transfecting a recombinant vector (B), which expresses the fusion peptide (b) ~~and the test protein as a unit~~, into the eukaryotic cell.

5. (Original) A fusion peptide (a), which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

6. (Canceled)

7. (Currently amended) A recombinant vector (A), which expresses ~~a~~the fusion peptide (a) ~~of Claim 5 comprising a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.~~

8. (Canceled)

9. (Currently amended) A ~~probe set of fusion peptides~~ for analyzing an organelle-localized protein, comprising the fusion peptide (a) of Claim 5, which comprises:
a fusion peptide (a) comprising a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide; and
a fusion peptide (b) comprising a half-peptide of a fluorescent protein, a half-peptide of an intein and a test protein.

10. (Currently amended) The ~~probe set according to~~ set of fusion peptides of Claim 9,
wherein which comprises:

~~_____ the fusion peptide (a) or the fusion peptide (a) expressed by the recombinant vector (A)~~
~~comprises two or more types of fusion peptides, each fusion peptide comprising one half peptide~~
~~of a fluorescent protein having different signal characteristics and a different organelle targeting~~
~~signal peptide~~two or more types of fusion peptides (a), wherein each fusion peptide (a) comprises
one half-peptide of the fluorescent protein and the organelle targeting signal peptide, wherein the
fluorescent protein has a different signal characteristic from other fluorescent proteins and the
organelle targeting signal peptide targets a different organelle from other signal peptides; and
~~_____ the fusion peptide (b) comprises two or more types of fusion peptides (b), wherein each~~
~~fusion peptide (b) comprising- comprises~~ the other half of the fluorescent protein and the test
protein different from each other.

11. (Currently amended) A eukaryotic cell, ~~containing~~ comprising a fusion peptide (a),
which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an
organelle targeting signal peptide.

12. (Currently amended) A cell kit[[,]] comprising two or more of the eukaryotic cells
of Claim 11.

13. (Currently amended) A eukaryotic cell[[,]] comprising two or more types of fusion
peptide (a), wherein each fusion peptide (a) comprises a half-peptide of an intein, a one-half-
peptide of a fluorescent protein and an organelle targeting signal peptide, wherein the fluorescent
protein of each fusion peptide (a) have-has a different signal characteristics from other
fluorescent proteins and the organelle targeting signal peptide of each fusion peptide (a) target
targets a different organelle from other signal peptides.

14. (Currently amended) A cell kit[[,]] comprising two or more of the eukaryotic cells of Claim 13.

15-20. (Canceled)

21. (New) A set of recombinant vectors for analyzing organelle-localized proteins, comprising:

a recombinant vector (A) expressing a fusion peptide (a), that comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide; and

a recombinant vector (B) expressing a fusion peptide (b), that comprises a half-peptide of a fluorescent protein, a half-peptide of an intein, and a test protein bound thereto.

22. (New) The set of recombinant vectors of Claim 21, wherein:

the recombinant vector (A) expresses two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein and an organelle targeting signal peptide, the fluorescent protein has a different signal characteristic from other fluorescent proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides; and

the recombinant vector (B) expresses two or more types of fusion peptides, each fusion peptide comprising other half-peptide of the fluorescent protein.

23. (New) A eukaryotic cell comprising a recombinant vector (A) expressing a fusion peptide (a) that comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

24. (New) A cell kit comprising two or more of the eukaryotic cells of Claim 23.

25. (New) A eukaryotic cell comprising a recombinant vector (A) expressing two or more types of fusion peptides (a), wherein each fusion peptide (a) comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide, and wherein the fluorescent protein has a different signal characteristic from other fluorescent proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides.

26. (New) A cell kit comprising two or more of the eukaryotic cells of Claim 25.